Does national corruption undermine aid projects in healthcare?

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Introduction

In 1989, a World Bank study stated that "underlying the litany of Africa's development problems is a crisis of governance" (World Bank, 1989, p. 60). Since then, strengthening good governance in developing countries has become one of the main objectives and conditions for official development assistance (ODA). The term good governance generally refers to donor agencies demanding or encouraging adherence to proper administrative processes in handling ODA by recipient countries and putting in place instruments towards this end (Doornbos, 2003). In this context, corruption is seen as one of the pivotal elements of governance that impairs the effectiveness of ODA, which is why the World Bank considers controlling corruption a priority in assisting developing countries (Quibria, 2017).

This narrative in the policymaking community was backed by academic literature. Aid is shown to be vulnerable to corruption as large non-tax revenue that increases the incentive for rent-seeking similarly to other revenue sources that do not depend on citizen taxation such as natural resources (Svensson, 2000). Furthermore, most of the literature that examined the relationship between corruption and aid effectiveness focused on economic growth and showed that corruption undermines aid effectiveness (Burnside & Dollar, 2004). Understanding if and in what circumstances corruption affects aid outcomes is in the interest of donors and their citizens to understand if aid, which implies inherently good intentions, is wasteful or even has negative consequences in a corrupt environment of a recipient country.

The existing literature on the effect of corruption specifically on health-related aid provides no uniform conclusion (Dietrich, 2011; Shpak, 2012; Lee et al., 2016). However, a major flaw of all existing studies is that they measure the success of aid by observing general health outcomes. While they claim that they test the effect of corruption on aid effectiveness, this is misleading because the link between aid and improvement in health outcomes is not direct. Instead, this study focuses on aid projects, which often include evaluations of their outcomes and allow for a more causally informative analysis of the relationship between corruption and aid. Thus, this study is an attempt to answer the following research question. What is the effect of national corruption on the outcomes of development aid projects in the health sector?

To answer this question this study first conceptualizes corruption and introduces the concept of project outcome to the literature on the success of aid projects and explains why this move is crucial. Then, provides the first systematic overview of how national corruption might affect project outcomes. Additionally, an overview of how other relevant factors this study controls for might affect project outcomes is presented. Ultimately, a multiple linear regression that includes 1988 health-related aid projects in developing countries presented by this study provides no evidence that national corruption undermines the outcomes of aid projects in healthcare. However, other factors such as state capacity, GDP per capita and ethnic fractionalization seem to have a significant effect on project outcomes.

Literature review

Corruption

The definition of corruption as the use of public office for private gains is widely used by most scholars (Bardhan, 1997; Jain, 2001; Rose-Ackerman, 2011). However, what this means in practice is best explained using the principal-agent framework. An agent is a person who has been delegated the authority to act on behalf of the principal in accordance with the principal's interests (Banfield, 1975). Therefore, public officials are agents of citizens and must act in accordance with citizens' interest in their work. If an agent sacrifices its principal's interest to its own the official is personally corrupt. Some corrupt acts may turn out to be beneficial to the principal. However, since the agent personally profited from this act, it is still officially corrupt. Thus, it is important to emphasize that not all corruption has to necessarily harm citizen's interests.

Furthermore, corruption is not an isolated phenomenon that affects only the public sector. Corruption is a social phenomenon, therefore it is often present in many different areas of society from bureaucracy and judiciary to large corporations (Gutmann & Lucas, 2018). Corruption also happens at different levels and scales, this can range from petty corruption offered by citizens to traffic police to grand corruption at the highest level of government (Mashali, 2012). Therefore, corruption is usually a network that affects the whole society and can be observed and analysed on a country level. This is what this study refers to as national corruption.

Aid projects in health sector

Official development assistance (ODA) is defined by the Development Assistance Committee (DAC) as "government aid that promotes and specifically targets the economic development and welfare of developing countries" (Development Assistance Committee [DAC], 2021). This definition since its implementation in 1969 has been a global standard for both practitioners and scholars for referring to foreign aid. However, under this broad definition exist a variety of different contexts in which ODA flows. ODA can consist of grants or loans, can be untied or tied to certain conditions, allocated for a specific sector or be general (Brech & Potrafke, 2014).

Traditionally, donors distributed ODA through either general budget support or specific aid projects (Cordella, & Dell'Ariccia, 2007). Budget support assumes less direct involvement by the donors, as they only provide the financial resources to the recipient government, although often with conditions on how the resources are to be spent. On the other hand, project aid assumes a more direct and active role by the donor who is involved in the design of the project and its implementation. While budget support has experienced a rapid increase in the early 2000s, in just a few years its popularity has rapidly declined due to effectiveness issues (Swedlund & Lierl, 2020). On the other hand, over the years project aid has become the primary way of funding, measuring and thinking of development aid (Freeman & Schuller, 2020). Thus, this paper limits itself to studying ODA achieved only through aid projects. Furthermore, it is worth noting that aid can be distributed bilaterally or through multilateral donor agencies, which mediate the conflicting preferences of donors and lower transaction costs (Martens, 2005). The scope of this analysis encompasses both aid projects carried out by bilateral donors and multilateral donor agencies.

Outcome of aid projects

Different concepts were used in political science literature to analyze the performance of developmental aid projects. The two concepts most used in this literature were effectiveness (Dietrich, 2011; Lee et al., 2016) and efficiency (Mosley et al., 1992; Pietrobelli & Scarpa, 1992). Although different studies use different names for these concepts, only rarely is a clear conceptualization provided and even fewer studies accompany the conceptualization with a coherent measurement that corresponds to the initial concept. Thus, it is crucial to make a clear distinction between the concepts and use them consistently. Effectiveness is an assessment of

to what extent the objectives of a project were achieved. On the other hand, efficiency refers to the extent to which a project delivers results, while minimizing its costs (DAC, 2019).

As a result of the issues related to the conceptualization of aid performance and measurement, the existing empirical studies on aid performance are methodologically and often theoretically impaired. Studies that investigate the relationship between corruption and the success of health-related aid often measure the success of aid by observing general health outcomes (Dietrich, 2011; Shpak, 2012; Lee et al., 2016). However, this produces misleading conclusions since there is little to no evidence that foreign aid on its own improves population health (Toseef et al., 2019). Even if health aid has some positive impact on health outcomes its impacts are not substantive as the amount of aid states receive is not remotely sufficient relative to the needs (Mishra & Newhouse, 2009). Furthermore, another shortcoming of the existing literature is the inconsistent use of concepts. Many studies, because of the insufficient clarity in conceptualization interchangeably use different concepts such as efficiency, effectiveness or impact (Boone, 1996). Such ambiguity has led to studies interpreting their methodology improperly.

The existing literature, therefore, systematically lacks a clear and coherent concept that allows for precise empirical analysis of the performance of developmental aid. Thus, this paper introduces the outcome of aid projects to the political science literature on aid performance.
The outcome rating was developed by the DAC and has been the gold standard for development aid agencies in their own project evaluation since the 1990s (Carey, 2021). The project outcome is an aggregate concept that encompasses: (a) effectiveness, (b) efficiency, (c) impact and (d) relevance (DAC, 2019). In addition to effectiveness and efficiency that have already been explained DAC defines relevance as the extent to which a project responds to the needs and priorities of the beneficiaries, as well as considering the economic, environmental, social and other capacity conditions in which the project takes place. Lastly, impact refers to the longer-term or broader results of the project than those already captured by specific objectives. These broader effects often refer to enduring changes in systems and norms or improvements in people's well-being, environment or gender equality.

Project outcome that includes all four relevant criteria for assessing what difference the aid project makes in a specific location is crucial in allowing this research to capture all the potential ways in which corruption might affect project contributions. Since effectiveness

captures if a project achieves its objectives, it is crucial to capture if national corruption prevents the project from meeting its objectives. Efficiency, on the other hand, captures if national corruption impedes the optimal use of resources. Furthermore, since projects are designed in collaboration with recipient countries' leaders who, for private gain, might disrupt making the project most beneficial for its end-users, relevance captures if corruption affects how well the project suits the needs and priorities of its end-users. Lastly, impact captures significant changes in systems or norms brought by the project. It is important to identify if national corruption had an effect on these types of changes since corruption can undermine serious commitment to the project and thus undermine its broader impact. Therefore, introducing the outcome of aid projects is a valuable contribution because it allows a clear and comprehensive capture of the effect of corruption on aid projects.

Moreover, the clarity of the concept and each of its components that were defined in the context of broad multilateral consensus allowed for it to become a standard for operationalization in the development aid industry (Carey, 2021). Utilizing the outcome ratings of projects provided by individual development aid agencies such as the World Bank (WB), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and others, that base their methodology for project rating of DAC guidelines, presents a significant move in the empirical literature. Instead of impaired attempts to proxy aid outcomes in general health indicators, this paper moves to analysing exact outcomes of development aid projects in healthcare, to produce more robust and comprehensive conclusions on the effect of corruption on the outcome of health aid.

The effect of corruption on aid projects

The literature on corruption in international development is rich. However, while the literature mainly focuses on the effect of corruption on the development and provision of public services, its effect on project aid did not receive much attention. Therefore, drawing from the existing theory as well as empirical evidence, this section provides a systematic discussion of how corruption might affect the outcomes of health aid projects.

Most of the existing literature is in line with the conventional wisdom that corruption negatively affects outcomes of aid projects in healthcare with different mechanisms developed that can potentially explain this relationship. Firstly, corruption undermines the outcomes of

aid projects in the health sector by wasting scares resources. From the central government allocating the resources for a certain use to the end-users of this service exists a long chain of government agencies, public procurement and provider units. In many developing countries significant amounts of resources do not reach the end-users, instead the resources are stolen at some point in the supply chain. For instance, a survey done in Uganda showed that schools received only 13% of resources allocated by the government for non-wage expenditures (Reinikka & Svensson, 2002).

Aid projects in the health sector are not immune to this leakage of funds through corruption. In the chain from the developmental agency allocating the resources to the end-users of the project, there are many opportunities for siphoning off resources in the project design, procurement and implementation stages. Many different tactics are employed for corruption in aid projects, including overpaying required materials or labour, misuse of funds and inappropriate bidding procedures for public procurement (Aguilar et al., 2000). All these essentially result in a waste of scarce resources needed for the success of the project and thus undermine the outcome of projects. However, in some cases, the outcomes of aid projects can be undermined in other ways simultaneously while siphoning resources. One of the tactics for stealing resources is providing lower than specified supplies or infrastructure while keeping the difference of resources, for instance lesser steel reinforcement in concrete infrastructure or medical supplies of lesser quality (Aguilar et al., 2000). Thus, while this corruption scheme simultaneously wastes scares resources it leaves aid projects with inadequate supplies and infrastructure that can undermine the outcomes of projects.

Besides financial or other material troubles that corruption causes for aid project outcomes, human resources are another crucial factor for successful outcomes of aid projects. These projects are not carried out solely by the development agencies. Instead, development agencies require significant cooperation with the recipient country in the project design stage, while the project implementation itself is usually carried out fully by the recipient country with supervision from the agency (Baum, 1978). Therefore, the knowledge and abilities of the recipient country's bureaucrats, medical staff and other employees in the health sector are crucial for the outcomes of aid projects. Another common form of corruption in developing countries is the purchase of public positions. A survey in Latvia, Armenia and Georgia showed that prices for public positions were well-known to the public (Kaufmann et al. 1998). This unmeritocratic appointment or promotion undermines the outcome of aid projects by

fundamentally undermining the performance of the state bureaucracy and health sector. As the purchase of public positions undermines recruitment based on merit, people hired based on other corrupt criteria will not do as well in planning, managing and executing the projects, as employees who got the position based on merit would. Undermining the outcomes of aid projects in healthcare.

Absenteeism is another common issue in the provision of public health services. Although in some cases workers' absence is legitimate as they often need to travel to remote locations not easily accessible due to poor infrastructure to receive paychecks, acquire supplies or go home, in many cases workers are deliberately absent (McPake et al., 1999). Because healthcare workers in developing countries are often poorly motivated, supervised and paid they often receive salary but provide minimal services in their workplace. A study in Bangladesh found that the absence rate of physicians was 40% in larger clinics and 74% in smaller ones (Chaudhury & Hammer. 2004). The result of such absenteeism is under-staffed services reliant on poorly trained lower-level staff with no supervision. Therefore, the implementation of aid projects in the health sector which is intended to be carried out in these conditions has little chance of success. Furthermore, the study in Bangladesh found that absenteeism in the health sector discourages patients from using health services. This finding is important because it shows that absenteeism can undermine the outcome of health aid projects not just from the supply side of medical personnel, but also by decreasing demand for health services which is essential for response to public health issues (Winnick et al., 2005).

Similarly, corruption in general was proved to undermine the state's legitimacy and trust in politicians (Ares & Hernández, 2015). This is important because trust in government influences citizens' compliance with government guidelines related to public health problems (Quinn et al., 2013; Jamison et al., 2019; Arriola & Grossman, 2021). Citizens' compliance with guidelines such as receiving a vaccine and following pre-emptive measures is an important factor in a successful response to public health problems. Furthermore, a survey conducted in Croatia found a direct negative effect of corruption on trust in public healthcare (Radin, 2013). This evidence suggests that corruption might negatively influence the outcomes of aid projects in healthcare by undermining trust in institutions and compliance with public health recommendations.

Electoral competition in many developing countries also results in corruption. As incumbent leaders seek political support many utilize the process of public service allocation to their personal interests, instead of providing services in a way that would maximize the benefits for end-users (Kailthya & Kambhampati, 2022). Electoral competition can thus influence the outcomes of aid projects as well. The attempts to signal to citizens that the incumbent is doing a good job can for instance manifest in deciding to build hospitals within the framework of an aid project, instead of investing in less visible but more needed supplies and personnel or in allocating resources from the project to an area where the leader needs more political support, but these resources are less needed than elsewhere.

On the other hand, other theoretical arguments exist that describe how corruption might have no significant effect on the outcome of aid projects or even might have positive effects on aid projects in the health sector. Based on all the empirical evidence as well as theoretical arguments presented one might quickly conclude that corruption is bad for aid project outcomes. However, it is important to consider the alternative, that is how could the absence of corruption influence the outcomes of aid projects.

In many developing countries corruption is an informal institution, rooted in the functioning of the state. A study done in Mexico and Nigeria shows more than a third of citizens believe paying a bribe is acceptable behaviour (Agerberg, 2022). Corruption might not be a significant factor in demining outcomes of aid projects in the health sector because in developing countries corruption is a necessary instrument that facilitates beneficial activities that would otherwise not take place because of the inefficiency of state institutions (Aidt, 2009). When the protection of legal rights, including property rights is strong and the state bureaucracy is efficient the argument that corruption hurts development outcomes might be true. However, in developing countries state institutions, because of inefficiency, constrain beneficial transactions which lead to development. In this context, corruption may act as a useful substitute to get around these constraints (Leff, 1964; Huntington 1998). For instance, if state institutions are unable or unwilling to grant property rights to an investor, bribing local officials can often ensure the protection of an investor's property.

Similarly, corruption may be an important tool for the successful realization of healthcare aid projects in developing countries. In the process of project implementation deviating from the procurement regulations or making illegal concessions to other officials or private partners with

the aim of avoiding bad regulation or accelerating bureaucratic processes could be beneficial for delivering positive outcomes. Examples of this include cases where public officials make decisions that increase the productivity of healthcare, such as choosing a reliable and effective contractor to build a hospital, while breaking the rules of procurement or transferring resources to productive uses such as a promising pharmaceutical company but charge a bribe for doing so (Khan, 2006). In the end what matters more for the project outcomes are actual improvements in public health, for instance, if most of the population was vaccinated and the disease eradicated or if the rates of maternal mortality decreased, not if every single step in the process of healthcare delivery was done according to the bureaucratic rules.

A study in Brazil found evidence that the government's anti-corruption campaign significantly decreased corruption, however, it simultaneously resulted in a significant worsening of health indicators (Lichand et al., 2016). As a response to the anti-corruption program, Brazilian bureaucrats felt more constrained about allocating resources according to local needs and procurement staff reduced spending by 50% because they were afraid that they would act not in line with the anti-corruption policy. This led to insufficient infrastructure and supplies which resulted in the deterioration of actual health services. Similarly, when a developing country has high control over corruption, its public officials who work on the implementation of aid projects would feel constrained in the same way. Therefore, instead of proactive public officials who do their job to the best of their abilities, officials constrained by high control of corruption would do the required minimum of work, without making decisions outside the official protocol afraid they will face sanctions if they do. However, the decisions made by proactive public officials with experience who know the local demands and are familiar with the local suppliers and other context-specific issues can support better outcomes of aid projects compared to an alternative, where the officials strictly stick to the guidelines for project implementation without taking the initiative based on their knowledge with an end goal of delivering better outcomes.

A different argument that suggests corruption might have a positive impact on aid project outcomes in the health sector is based on strategic compliance (Dietrich, 2011). As the development agencies allocate aid projects based on, among other factors, the ongoing trends in governance among countries the leaders of highly corrupt countries take advantage of this. The leaders of recipient countries are aware that if they comply with donor agency standards for project implementation, not many resources will be available for theft through corrupt

practices. On the other, hand if they were to employ corrupt practices across all aid projects the development agencies would not allocate the country projects in the future. Therefore, corrupt leaders choose to implement aid in line with agency standards in some sectors to show improvement in governance and attract more resources from the agencies, while at the same time continuing with corrupt practices in other sectors. According to this argument, the healthcare sector is the least susceptible to corrupt practices because the projects in the health sector compared to other sectors are often smaller-scale projects that include direct distribution of supplies such as vitamin-A or bed nets. Additionally, donor agencies' emphasis on health outcomes in promoting development is another factor why corrupt leaders choose to comply with agency standards specifically in the health sector (Farag et al., 2009). Therefore, in countries with high corruption, the aid projects in the healthcare sector benefit from corruption even if it undermines the projects in other sectors.

However, despite these arguments that claim that corruption might have no significant effect on the outcome of aid projects or even might have positive effects on aid projects in the health sector, based on the dominant argument in the literature supported by more evidence this research expects that the results will be in line with the following hypothesis.

> *H: Holding everything else constant national corruption has a negative effect on the outcomes of aid projects in the health sector.*

Data

In order to answer the research question this study employs linear regression. This method allows this study to analyse many cases across many different developing countries over a period of over two decades. Therefore, the evidence produced by this analysis is highly generalizable. Other qualitative research designs could potentially provide this study with a more in-depth insight into mechanisms through which corruption might influence project outcomes, however, a clear answer does not yet exist on whether the effect exists. Thus, this methodology serves the purpose of providing a clear answer on the effect of corruption on aid project outcomes.

Outcome of aid projects

The data for the dependent variable, outcome of health aid projects, is a collection of 1988 aid projects by eight developmental agencies, including WB, GFATM, United Kingdom's Department for International Development (DFID) and others (Honig et al., 2022). All projects took place between 1996 and 2019. The case selection was based on the project sector. Cases included in the analysis were projects related to basic and reproductive health. For each of these projects, after their end dates, an evaluation of project outcomes was carried out and assigned a numerical ranking. For some of the projects the evaluation was carried out internally by the agencies, for some it was done externally, and some agencies have their own independent evaluation office created. Some might be sceptical about the outcome rankings in cases where the evaluation has been done within the agency. However, for this study, this is not a concern as 95% of the projects included in the analysis have been carried out by development aid agencies that score very good or good on the aid transparency index (ATI) (Publish What You Fund [PWYF], 2022). Since PWYF yearly reviews the index that reports transparency of development agencies, including their transparency on their performance and self-evaluations it provides confidence in project outcome rankings (PWYF, 2023).

Since the project outcome rating scale differed among development agencies the dataset includes ratings rescaled to a standardized six-point scale. A value of 1 represents a highly unsatisfactory outcome and a value of 6 represents a highly satisfactory outcome. Although the evaluation methodology somewhat differs among the agencies at the core of each evaluation methodology are the four standard DAC criteria: effectiveness, efficiency, impact and relevance (DFIT, 2011; 20GFATM, 2023; WB, 2015). Therefore, their evaluation methodology is similar enough to capture the same relevant aspects of aid projects and can be utilized in a single comprehensive analysis.

It is worth noting that due to the data availability, the analysis includes only projects carried out by multilateral development agencies of the Western countries such as the UK, Australia or Germany and multilateral development agencies dominated by the Western countries, namely the WB, GFATM and the Asian Development Bank (Vestergaard & Wade, 2013; Brown & Rhodes, 2023). However, the landscape of ODA is broader than just these agencies. In the past years, the economic rise of non-western countries such as China and India eventually led to

attempts to change the structure of international governance. The challenging of existing international organizations is also evident in development finance with the creation of the China-sponsored Asian Infrastructure Investment Bank and the New Development Bank (Zhang, 2017). Therefore, a potential selection bias might exist if corruption has a significantly different effect on project outcomes of Western-dominated agencies, compared to the whole population of aid projects. However, the data availability constrains this research from controlling for this potential bias.

Another potential bias of this research is related to failed aid projects. Aid projects in developing countries for many reasons often completely fail, without ever being completed (Ika & Donnelly, 2017). Since the projects in the dataset were evaluated after project completion, the projects that failed before completion are not included in the dataset. If the absence or presence of corruption systematically makes aid projects in healthcare more likely to fail the effect of corruption on project outcomes might prove to be stronger. Thus, the absence of potentially many such failed projects could potentially bias the results of this research. As data limitations do not allow the research to address this potential bias, it is important to keep this in mind.

Control of corruption

The data for the national corruption variable is extracted from the Worldwide Governance Indicators dataset (WB, 2023a). The measure captures perceptions of the extent to which public power is used for private gain on a national level. The score of the control of corruption ranges from -2.5 to 2.5 with higher values meaning more control of corruption or in other words, less corruption in the society. Since the dataset provides indicators for control of corruption only from 1996 onwards, the case selection for the analysis was narrowed down to only aid projects with a start year after 1995. The indicator for each project is allocated based on the corruption indicator for the country in which the project takes place in the year when the project started. It is worth noting that this measure is based on perception of corruption not actual data on corruption. Additionally, this measure captures not only the perception of corruption in the public sector but also private sector which contributes to generating a comprehensive measure

of the corruption environment within a country, which is the focus of this paper, as it attempts to understand the effect of corrupt environment on outcomes of health aid projects. This might be particularly important because donors and recipient countries rely on the private sector for many of the projects, for instance for procurement of supplies or infrastructure.

Research design

Figure 1 shows the scatterplot of the control of corruption and the outcomes of aid projects. The scatterplot suggests a positive correlation between the control for corruption and project outcomes in the health sector. This suggests that corruption might negatively influence the outcome of aid projects in the health sector, which would be in line with the hypothesis. However, to produce robust results, the analysis needs to account for factors that might influence this correlation, isolate the effect of corruption on project outcomes from other confounding effects and address potential biases in its results.

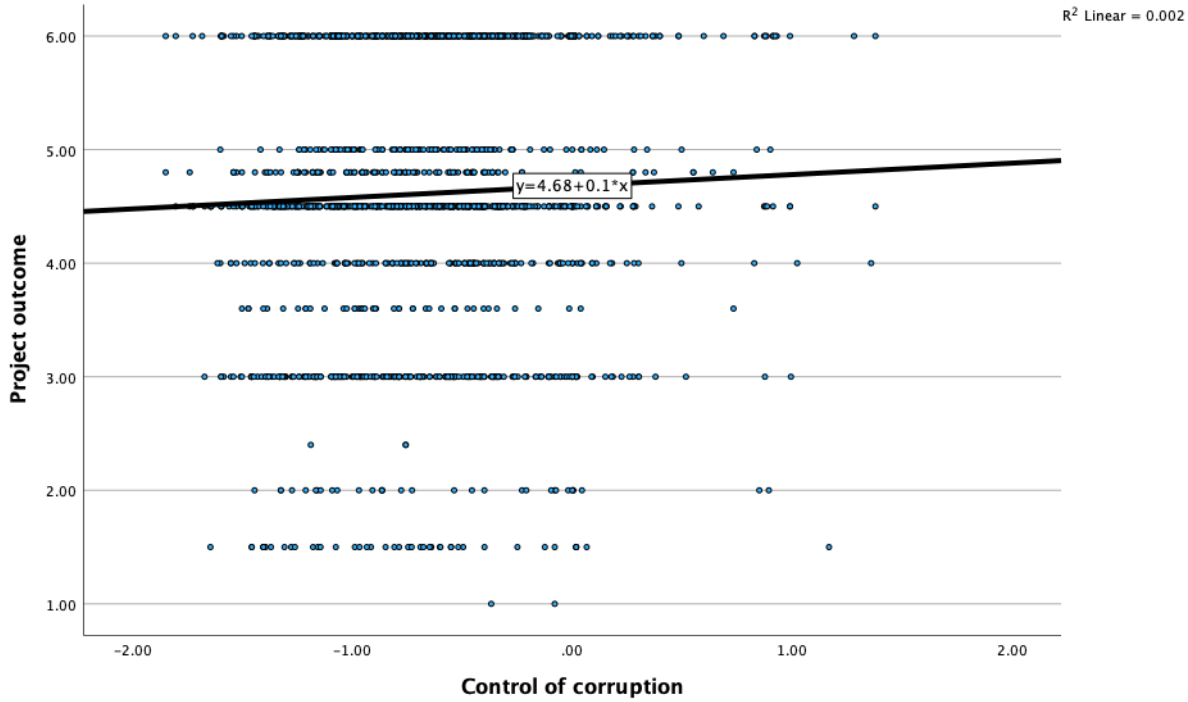

Figure 1. Scatterplot of the control of corruption and the outcomes of health aid projects

Firstly, in studying the relationship between corruption and development aid the question of reverse causation is frequently brought up. Therefore, for this research, the question is whether the outcomes of aid projects somehow affect the level of national corruption. This potentially could be the case if developing countries with lower corruption levels are being rewarded by the donors for good governance by receiving more aid projects, as some studies have shown that larger amounts of aid encourage corruption (Asongu & Nwachukwu, 2016). Yet, the literature on how governance quality in recipient countries influences the allocation of aid by the donors provides no universal answer (Alesina & Weder, 2002; De la Croix & Delavallade, 2014). However, the design of this research allows confidence about the direction of the potential relationship between corruption and project outcomes. Since corruption for each project is measured in the start year of the project and project outcomes are evaluated only after the project ends, the difference between these two measures is usually years apart, with the average duration of the project included in the analysis being almost five years. It is impossible that the outcome rating of the project affected the level of national corruption years before it was released. Therefore, any effect resulting from the analysis is the effect of corruption on project outcomes in the health sector, and not vice versa.

Another issue that might prove the results of the existing correlation between corruption and aid outcomes misleading is potential covariates and confounders. Corruption is potentially not the only important determinant for project outcomes. Therefore, the effect of corruption on aid outcomes needs to be isolated from the potential effect of other relevant factors, such as state capacity or ethnic fractionalization. Furthermore, confounders such as democracy could potentially have an effect both on levels of national corruption and the outcomes of aid projects. Different studies showed that more advanced levels of democracy have an impact on reducing national corruption (Sung, 2004; Rock, 2009). While at the same time various characteristics of democracy potentially improve aid project outcomes (Winters, 2010; Akobeng, 2020). In order to account for potential confounders and covariates the analysis includes relevant control variables discussed in the next section.

To make the results of the regression more robust the analysis additionally makes use of the richness of the data available across time and space. Since aid projects in the dataset span over the period of 23 years, this might introduce a potential bias to the analysis because over time project outcomes could improve not due to some specific factor, but rather general improvement in technology and knowledge, that could contribute to better project outcomes

over time. Additionally, corruption within countries tends to improve over time historically (Uberti, 2022). Since the dataset contains 1988 health aid projects, with an average of about 94 projects per year there is enough longitudinal variation in the dataset to account for over-time improvement in project outcomes by adding an additional control variable for the start year of the project.

Additionally, since the projects were carried out in 144 countries, even with the relevant control variables, there is a risk that the effect indicated in the regression is based on a comparison of aid projects in very different countries, with different characteristics that might influence the outcome of aid projects. However, an average of about 14 projects per county creates enough variation to add controls for countries to account for country fixed effects. This way the analysis will compare aid projects within the same country, which will render the results of the analysis more causally informative. Another potential issue arises from the fact that the cases in this analysis are aid projects collected within countries, therefore regular standard errors which assume independence of observations would result in overestimation of statistical significance. To account for this, this analysis makes use of robust standard errors.

Other control variables

In addition to controlling for the start year of the project and country fixed effects the regression model includes five other relevant variables. Firstly, studies have shown that countries with higher GDP per capita are better at achieving positive aid outcomes (Semplice, 2014). This is potentially because countries with higher GDP per capita have more wealth to invest in the provision of health services, for instance in building hospitals, traffic infrastructure and education of qualified staff. Additionally, the private sector in a country with higher GDP per capita is more developed and can provide better contractors to support aid projects in healthcare. Furthermore, GDP per capita affects national corruption. Wealthiness of a society decreases corruption, since people in a society do not experience a shortage of any vital resources and are less tempted to gain resources through corruption (Moiseev et al., 2020). To control for wealth this research uses the GDP per capita from each country for the start year of the project converted to a constant value of the US dollar from 2015 (WB, 2023b).

Democracy is another variable that needs to be controlled. As characteristics of democracy such as transparency and accountability increase sanctions and risks for public officials and politicians to engage in corrupt practices high levels of democracy reduce corruption (Rock, 2009). Free competitive elections provide incentives for politicians with incentives not to engage in corruption since they need support from the electorate to stay in office. The protection of free speech and media encourages professional journalism that exposes and discourages corruption (Giglioli, 1996). Additionally, the independent judiciary restrains corruption and maximizes the success of anti-corruption campaigns (Moran, 2001). Furthermore, democracy at the same time affects the performance of aid projects, since accountability between recipient government and its citizens that is provided by democratic institutions provides the recipient government with incentives to deliver positive project outcomes (Winters, 2010). For the democracy control variable, the analysis employs a comprehensive measure of democracy that captures all these relevant characteristics of democracy, namely the existence of democratic institutions, constraints on executive power and civil liberties (Marshall & Gurr, 2020). The democracy index is a scale from 0 to 10, with higher values indicating more advanced democracy.

Furthermore, as already mentioned the project implementation stage is usually mainly carried out by the recipient country (Baum, 1978). Several studies found that state capacity has a significant positive influence on achieving policy outcomes in the health sector (Serikbayeva et al., 2021; Abbas et al., 2023). Therefore, the state capacity of the recipient country might be an important factor for the outcomes of aid projects in the health sector and it is thus included as a control variable in the regression model. The index of state capacity included in the analysis combines multiple relevant indicators such as administrative efficiency, public sector management and policy reach to create a comprehensive indicator of state capacity (Hanson & Sigman, 2021).

Potentially ethnic diversity could also have an effect on aid project outcomes in healthcare. Ethnic diversity in many developing countries often results in the political marginalization of some ethnic groups (Wegenast & Basedau, 2014). In this context of ethnic marginalization achieving positive health policy outcomes is often more challenging due to citizens' distrust of state institutions and unwillingness to cooperate with government efforts (Arriola & Grossman, 2021). Additionally, some studies have provided empirical evidence of a direct negative relationship between ethnic fractionalization and aid effectiveness (Baliamoune-Lutz &

Mavrotas, 2009). To control for ethnic diversity the study makes use of the historical index of ethnic fractionalization on an interval ranging from 0 to 1 (Drazanova, 2019). This score captures the probability that two people chosen at random within a country will be members of different ethnic groups.

Lastly, since the actual quantity of resources allocated through development aid increases the opportunities for corruption and makes it more lucrative, an increased amount of aid is expected to increase corruption (Ali et al., 2019). Therefore, the size of the aid project could potentially increase corruption in that particular project. Consequentially, larger projects with more corruption could have worse outcomes. Alternatively, by increasing the financial capacities, human resources and supplies, larger projects could be expected to provide better outcomes (Feeny & Vuong, 2017). Thus, a control variable for project size was included in the analysis. The data for financial resources allocated to each project was included in the original dataset providing outcome ratings for each project (Honig et al., 2022). However, depending on the donor agency, the amount of resources was presented in the local currency of the agency. Therefore, for this analysis, all the project sizes were converted to the United States (US) dollar based on the exchange rates on the start date of the project. Additionally, since the projects were carried out from 1996 to 2019 the amounts were corrected for annual inflation and converted to the constant value of the US dollar from 2015. After taking into account all the relevant variables the regression model is run based on the following equation. All assumptions for linear regression are met, therefore no modification in relation to this was necessary.

$$Project\ outcome = \alpha + \beta_1 CoC + \beta_2 GDP + \beta_3 Democracy + \beta_4 EF + \beta_5 Capacity + \beta_6 Projectsize + \beta_7 Year + \gamma Country + \varepsilon_i$$

CoC = Control of corruption
EF = Ethnic fractionalization

Results and discussion

Table 1 presents the results of the linear regression predicting the outcomes of aid projects in the health sector. The results in the first column are the results of model 1, with control of corruption as the only explanatory variable. While the other columns present the results of models with added control variables. As expected by the figure 1 which shows a basic correlation between control of corruption and outcomes of aid projects in the health sector, model 1 confirms this relationship. More specifically, model 1 shows that a one-unit increase in the control of corruption is associated with a 0.146-point increase in project outcome. Furthermore, this effect is statistically significant ($p<0,05$). In other words, results of model 1 show that health aid projects deployed in countries with less corruption on a national level will have better project outcomes. This evidence is in line with the hypothesis and the dominant understanding of the effect of corruption on aid outcomes in the literature.

However, adding the control variables in the following models shows that the initial results based on model 1 are misleading. Controlling for the relevant variables, model 2 reveals that holding other variables constant one unit increase in the control of corruption leads to a 0.161-point decrease in project outcomes. This size of the effect of corruption on project outcomes is low since the outcomes of projects are ranked on a six-point scale and the control of corruption is measured on a five-point scale. This coefficient of 0.161 then suggests that even a significant improvement in control of corruption has a very small effect on project outcome improvement. Furthermore, adding the control variables in model 2 shows that the effect of corruption on the outcomes of health aid projects shows is in fact not statistically significant. While model 1 explains only 0.3% of the variation in project outcome (Adjusted $R^2= 0.003$), model 2 explains 4.8% of the variation in project outcome, making it a better fit for the observed data than model 1 (Adjusted $R^2= 0.048$). However, the effect size of both models is generally low.

To account for the starting year of the project and country fixed effects, models 3 and 4 add control variables for the start year and the country where projects were carried out respectively. Both variables contribute to a better model fit compared to previous models. In terms of the effect of corruption on aid project outcomes, model 4 confirms the results of model 2 and shows that the positive effect of corruption is even smaller and less statistically significant. According to model 4 holding other variables constant one unit increase in the control of corruption results

in a 0.041-point decrease in project outcomes in healthcare. These results show that national corruption does not have a significant effect on the outcome of aid projects in the health sector. Additionally, if there is some effect, this suggests that corruption may contribute to better outcomes of aid projects in healthcare. This finding is not in line with the initial expectations of this research. Thus, the set hypothesis is rejected.

Table 1: Linear regression model of the effect of national corruption on outcomes of aid projects in health sector

	Model 1	Model 2	Model 3	Model 4
(Constant)	4.728***	4.817***	-54.131***	-59.303**
	(0.056)	(0.120)	(15.739)	(21.892)
Control of corruption	0.146*	-0.161	-0.131	-0.041
	(0.067)	(0.083)	(0.083)	(0.209)
GDP per capita		-5.711E-5**	-6.031E-5***	0.000
		(0.000)	(0.000)	(0.000)
Democracy		0.001	-0.004	0.028
		(0.010)	(0.010)	(0.026)
State capacity		0.578***	0.573***	0.438*
		(0.076)	(0.076)	(0.221)
Ethnic fractionalization		-0.371**	-0.400**	-4.317
		(0.125)	(0.125)	(2.419)
Project size		-5.049E-11	-5.273E-11	-7.539E-11
		(0.000)	(0.000)	(0.00)
Project start year			0.029***	0.034**
			(0.008)	(0.011)
Country FE	No	No	No	Yes
R^2	0.003	0.052	0.062	0.203
Adj. R^2	0.003	0.048	0.057	0.129
N	1988	1988	1988	1988

Note: OLS Regression with robust standard errors in brackets.

*** p < 0,001, ** p < 0,01, * p < 0,05

It is important to emphasize how model 1 showed a significant negative effect of national corruption on aid project outcomes in healthcare, but after controlling for other variables in subsequent models, evidence shows that corruption most likely has no effect on the outcome of health aid projects. Even if there is some effect national corruption is more likely to improve project outcomes, rather than undermine them. While the results from model 1 are in line with the expectations of this study, the following models show how after adding the relevant control variables, the initial results from model 1 are misleading. High levels of national corruption do not impede outcomes of aid projects in healthcare, contrary to what the hypothesis suggests. Rather, corruption might be just a necessary tool for delivering project outcomes in developing countries. Instead, other factors such as state capacity, ethnic fractionalization and GDP per capita seem to be important factors for outcomes of aid projects in healthcare even though national corruption might not matter.

It could be the case that high national corruption does not translate into corruption in aid projects because the project implementation is supervised by development agencies. Thus, workers who would otherwise be absent come to work or bureaucrats and medical staff that would otherwise engage in corruption abstain from doing so. Unfortunately, there is no available measure of corruption within projects that would allow for testing this. However, this study also presented other mechanisms independent of corruption within the projects themselves that expected national corruption to negatively influence aid project outcomes in healthcare. However, the results of the analysis showed no significant effect.

Additionally, the results of the analysis suggest that the argument that corrupt leaders strategically choose to comply with the objectives of development agencies to deliver positive outcomes and abstain from corruption exclusively for aid projects in healthcare seems plausible (Dietrich, 2011). Therefore, based on this argument corruption should have a significant negative effect on aid projects in sectors other than healthcare. To investigate this idea further a second regression analysis is run that includes only the aid projects carried out in other sectors. As the results in table 2 suggest, corruption does not have a significant effect on the outcome of aid projects in sectors other than healthcare. However, even though the effect is not statistically significant this model suggests that holding other variables constant corruption might improve project outcomes in other sectors. However, further testing this interaction falls beyond the scope of this research.

Table 2: Linear regression model of the effect of national corruption on outcomes of aid projects in sectors other than health

	Model 1
(Constant)	-7.404
	(10.126)
Control of corruption	0.044
	(0.091)
GDP per capita	-9.875E-5*
	(0.000)
Democracy	0.027*
	(0.012)
State capacity	-0.217**
	(0.108)
Ethnic fractionalization	-0.465*
	(0.108)
Project size	1.932E-11**
	(0.000)
Project start year	0.006
	(0.005)
Country FE	Yes
R^2	0.182
Adj. R^2	0.160
N	7331

Note: OLS Regression with robust standard errors in brackets.

*** p < 0,001, ** p < 0,01, * p < 0,05

Conclusion

Despite the literature that emphasizes the negative effects of corruption on ODA and portrays it as an inherently unfavourable political phenomenon, this study does not find evidence that national corruption undermines aid project outcomes in the health sector. Instead, the evidence is consistent with the argument that corruption probably does not matter for the outcomes of aid projects. The results of previous studies that claim that corruption negatively affects ODA

outcomes can potentially be explained by their omission of revenant confounders and covariates. As this study includes different regression models, a model that does not include relevant variables shows results in support of the hypothesis. However, after including the relevant control variables in subsequent models, robust evidence suggests no evidence that national corruption undermines aid projects. Therefore, corruption seems not to be relevant for aid project outcomes. Rather, corruption is merely a modus operandi for many developing countries. It facilitates bureaucratic processes and delivery of health services as it often enables processes that would not happen without corruption. Although, some of the processes that occur are not beneficial for the state, in many cases the processes enabled by corruption empower actors and processes that are beneficial for healthcare outcomes in aid projects, which outweigh the negative effects of corruption, or at least make corruption not a significant factor for aid project outcomes.

While corruption is probably not a relevant factor, other factors such as state capacity, ethnic fractionalization and GDP per capita are important for outcomes of aid projects in healthcare. Therefore, if national corruption does not undermine outcomes of aid projects the unprecedented emphasis on reducing corruption in developing countries led by the WB and other development agencies is potentially a waste of resources. Additionally, in efforts to crack down on corruption development agencies often cancel the whole project after at any minor corruption has been detected or refuse to collaborate with contractors involved in any kind of corruption on their future projects (Hobbs, 2005, p. 19). These actions, although potentially beneficial for fighting corruption, have serious negative consequences on delivering better health outcomes through ODA since, for instance, the project that was aborted because a few receipts were missing would decrease tuberculosis infection rates or the contractor who is blacklisted by the WB is the only reliable contractor in some small developing country. Thus, instead of focusing so much on anti-corruption measures, the human and financial resources should be directed towards improving the other factors that have a substantive effect on project outcomes, such as state capacity, ethnic fractionalization and GDP per capita as this research suggests.

Although this study has shown that corruption probably does not matter for ODA delivered through projects, the study provides no evidence to infer these results to the success of ODA in general, as for instance program aid is expected to be more vulnerable to corruption (Rimmer, 2000). Additionally, after comparing the results of the regression that includes data on projects

in healthcare and the one that includes data on projects in other sectors results suggest that corruption might have a different effect on projects in healthcare than in other sectors. Although this analysis provides no evidence for this claim, future research on the interaction between corruption and the aid sector might provide further insights and evidence.

The data on control of corruption was measured by perceptions, rather than actual control of corruption. This measure can be more or less accurate depending on other domestic and international factors, for economic crisis (Gugiu & Gugiu, 2016). However, using perceptions is unavoidable due to the clandestine nature of corruption. Furthermore, the existing literature and the results of this study suggest that corruption may be a too broad concept and different types of corruption may have different effects on project outcomes. Therefore, if future research manages to analyse different types of corruption separately, the findings will potentially provide insights into what type of corruption is unfavourable for aid projects and what type of corruption is necessary for successful outcomes. Ultimately, it is the outcomes of aid projects that matter, rather than how they were achieved. Therefore, identifying what factors do not matter and placing emphasis on those that do is the most useful strategy in which donor agencies can support developing countries.

Bibliography

Abbas, H. S. M., Xu, X., Sun, C., & Abbas, S. (2023). Impact of administrative state capacity determinants on sustainable healthcare. *Heliyon*, *9*(7).

Agerberg, M. (2022). Messaging about corruption: The power of social norms. Governance, 35(3), 929-950.

Aguilar, M. A., Gill, J., & Pino, L. (2000). Preventing fraud and corruption in World Bank projects. USA: The World Bank.

Aidt, T. S. (2009). Corruption, institutions, and economic development. *Oxford review of economic policy*, 25(2), 271-291.

Akhtari, M., Moreira, D., & Trucco, L. (2022). Political turnover, bureaucratic turnover, and the quality of public services. *American Economic Review*, 112(2), 442-493.

Akobeng, E. (2020). Harnessing foreign aid for the poor: role of institutional democracy. *Journal of Economic Studies*, 47(7), 1689-1710.

Alesina, A., & Weder, B. (2002). Do corrupt governments receive less foreign aid?. *American economic review*, 92(4), 1126-1137.

Ali, M., Khan, L., Sohail, A., & Puah, C. H. (2019). The relationship between foreign aid and corruption: a case of selected Asian countries. *Journal of Financial Crime*, *26*(3), 692-704.

Ares, M., & Hernández, E. (2017). The corrosive effect of corruption on trust in politicians: Evidence from a natural experiment. Research & Politics, *4*(2), 2053168017714185.

Arriola, L. R., & Grossman, A. N. (2021). Ethnic marginalization and (non) compliance in public health emergencies. *The Journal of Politics*, *83*(3), 807-820.

Asongu, S. A., & Nwachukwu, J. C. (2016). Foreign aid and governance in Africa. *International Review of Applied Economics*, *30*(1), 69-88.

Baliamoune-Lutz, M., & Mavrotas, G. (2009). Aid effectiveness: looking at the aid–social capital–growth nexus. *Review of Development Economics*, *13*(3), 510-525.

Banfield, E. C. (1975). Corruption as a Feature of Governmental Organization. *The Journal of Law and Economics*, *18*(3), 587-605.

Bardhan, P. K. (1997). *Democracy and development: A complex relationship*. Law and Economics Programme, Faculty of Law, University of Toronto.

Baum, W. C. (1978). The World Bank project cycle. Finance and Development, 15(4), 10-17.

Boone, P. (1996). Politics and the effectiveness of foreign aid. *European economic review, 40*(2), 289-329.

Brech, V., & Potrafke, N. (2014). Donor ideology and types of foreign aid. *Journal of Comparative Economics, 42*(1), 61-75.

Brown, G. W., & Rhodes, N. (2023). The Dynamics of Power Flow From the Global Health Financing; Comment on" Power Dynamics Among Health Professionals in Nigeria: A Case Study of the Global Fund Policy Process". *International Journal of Health Policy and Management, 12*(1), 1-4.

Burnside C, Dollar D. 2000. Aid, policies and growth. *American Economic Review 90*(4): 847–868.

Burnside C, Dollar D. 2004. Aid, policies and growth: revisiting the evidence. Policy Research Working Paper 3251. The World Bank: Washington, D.C.,

Burnside, A. C., & Dollar, D. (2004). Aid, policies, and growth: revisiting the evidence. Policies, and Growth: Revisiting the Evidence, 12(1) 331-349.

Carey R. (2021). Development, development cooperation, and the DAC: epistemologies and ambiguities. Bracho, G. et al. (Eds.), Origins, evolution and future of global development cooperation: The role of the Development Assistance Committee (DAC) (pp. 11-72). Bonn, Germany: German Development Institute.

Chaudhury, N., & Hammer, J. S. (2004). Ghost doctors: absenteeism in rural Bangladeshi health facilities. *The World Bank Economic Review, 18*(3), 423-441.

Cordella, T., & Dell'Ariccia, G. (2007). Budget support versus project aid: a theoretical appraisal. *The Economic Journal, 117*(523), 1260-1279.

De la Croix, D., & Delavallade, C. (2014). Why corrupt governments may receive more foreign aid. *Oxford Economic Papers, 66*(1), 51-66.

Department for International Development. (2011, November). *Reviewing and Scoring Projects.* Retrieved from:https://assets.publishing.service.gov.uk/media/5a790676e5274a2acd18ba08/HTN-Reviewing-Scoring-Projects.pdf

Development Assistance Committee. (2019, December 10). OECD/DAC Network on Development Evaluation. Retrieved from: https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf

Dietrich, S. (2011). The politics of public health aid: why corrupt governments have incentives to implement aid effectively. *World Development*, *39*(1), 55-63.

Doornbos, M. (2003). " Good governance": The metamorphosis of a policy metaphor. *Journal of International Affairs*, 3-17.

Drazanova, L. (2019). *Historical index of ethnic fractionalization dataset (HIEF)*. [Dataset]. Retrieved from https://cadmus.eui.eu/handle/1814/64606

Farag, M., Nandakumar, A. K., Wallack, S. S., Gaumer, G., & Hodgkin, D. (2009). Does funding from donors displace government spending for health in developing countries?. Health Affairs, 28(4), 1045-1055.

Feeny, S., & Vuong, V. (2017). Explaining aid project and program success: Findings from Asian Development Bank Interventions. *World Development*, *90*, 329-343..

Freeman, S., & Schuller, M. (2020). Aid projects: The effects of commodification and exchange. *World Development*, *126*, 104731.

Giglioli, P. P. (1996). Political corruption and the media: the Tangentopoli affair. *International social science journal*, *48*, 381-394.

Gugiu, M. R., & Gugiu, P. C. (2016). Economic crisis and corruption in the European Union. *Journal of Methods and Measurement in the Social Sciences*, *7*(1), 1-22.

Gutmann, J., & Lucas, V. (2018). Private-sector corruption: Measurement and cultural origins. *Social Indicators Research*, *138*, 747-770.

Hanson, J. K., & Sigman, R. (2021). Leviathan's latent dimensions: Measuring state capacity for comparative political research. *The Journal of Politics*, *83*(4), 1495-1510. Retrieved from: doi.org/10.1086/715066

Hobbs, N. (2005). Corruption in World Bank Financed Projects. *Why Bribery is a Tolerated Anathema*. London, United Kingdom: Development Studies Institute.

Honig, D., Lall, R. and Parks, B.C. (2022), When Does Transparency Improve Institutional Performance? Evidence from 20,000 Projects in 183 Countries. *American Journal of Political Science*. Retrieved from https://doi.org/10.1111/ajps.12698

Huntington, S. P. (1998). *Political order in changing societies*. Clinton, The United States of America: Yale university press.

Ika, L. A., & Donnelly, J. (2017). Success conditions for international development capacity building projects. *International Journal of Project Management*, *35*(1), 44-63.

Jain, A. K. (2001). Corruption: A review. *Journal of economic surveys*, *15*(1), 71-121.

Jamison, A. M., Quinn, S. C., & Freimuth, V. S. (2019). “You don't trust a government vaccine”: Narratives of institutional trust and influenza vaccination among African American and white adults. *Social Science & Medicine, 221*, 87-94.

Kailthya, S., & Kambhampati, U. (2022). Political competition and public healthcare: Evidence from India. *World Development, 153*, 105820.

Kaufmann, Daniel, Sanjay Pradhan, and Randi Ryterman. (1998). “New Frontiers in Anti-Corruption Empirial Diagnostics: From In-Depth Survey Analysis to Action Programs in Transition Economies.” World Bank Economic Development Institute: Unpublished working paper.

Khan K. M. (2006). Corruption, Governance and Economic Development. Jomo, K. S., & Fine, B. (Eds.), *The new development economics: post Washington Consensus neoliberal thinking* (pp. 200-221). New Delhi, India: Zed Books.

Lee, H. Y., Yang, B. M., & Kang, M. (2016). Control of corruption, democratic accountability, and effectiveness of HIV/AIDS official development assistance. *Global health action*, *9*(1), 30306.

Leff, N. H. (1964). Economic development through bureaucratic corruption. *American behavioral scientist*, *8*(3), 8-14.

Lichand, G., Lopes, M. F., & Medeiros, M. C. (2016). Is corruption good for your health. Job Market Paper.

Marshall, M. G., & Gurr, T. R. (2020). Polity V: Political Regime Characteristics and Transitions, 1800-2018. *Comparative Political Studies*, 35(1), 40-45. Retrieved from: https://www.systemicpeace.org/inscrdata.html

Martens, B. (2005). Why do aid agencies exist?. *Development policy review*, *23(*6), 643-663.

Mashali, B. (2012). Analyzing the relationship between perceived grand corruption and petty corruption in developing countries: case study of Iran. *International Review of Administrative Sciences*, *78*(4), 775-787.

McPake, B., Asiimwe, D., Mwesigye, F., Ofumbi, M., Ortenblad, L., Streefland, P., & Turinde, A. (1999). Informal economic activities of public health workers in Uganda: implications for quality and accessibility of care. *Social science & medicine*, *49*(7), 849-865.

Mishra, P., & Newhouse, D. (2009). Does health aid matter?. *Journal of health economics*, *28*(4), 855-872.

Moiseev, N., Mikhaylov, A., Varyash, I., & Saqib, A. (2020). Investigating the relation of GDP per capita and corruption index. *Entrepreneurship and Sustainability Issues*, *8*(1), 780.

Moran, J. (2001). Democratic transitions and forms of corruption. *Crime, law and social change*, *36*, 379-393.

Mosley, P., Hudson, J., & Horrell, S. (1992). Aid, the public sector and the market in less developed countries: A return to the scene of the crime. *Journal of International Development*, *4*(2), 139-150.

Organization for Economic Co-operation and Development. (2021, April). Official Development Assistance (ODA).Retrieved from: https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/What-is-ODA.pdf

Pietrobelli, C., & Scarpa, C. (1992). Inducing efficiency in the use of foreign aid: the case for incentive mechanisms. *The Journal of Development Studies*, *29*(1), 72-92.

Publish What You Fund. (2022). *Aid Transparency Index Report*. Retrieved from: https://www.publishwhatyoufund.org/app/uploads/dlm_uploads/2022/06/Aid-Transparency-Index-2022.pdf

Quibria, M. G. (2017). Foreign aid and corruption: anti-corruption strategies need greater alignment with the objective of aid effectiveness. *Geo. J. Int'l Aff.*, *18*, 10.

Quinn, S. C., Parmer, J., Freimuth, V. S., Hilyard, K. M., Musa, D., & Kim, K. H. (2013). Exploring communication, trust in government, and vaccination intention later in the 2009 H1N1 pandemic: results of a national survey. Biosecurity and bioterrorism: biodefense strategy, practice, and science, 11(2), 96-106.

Radin, D. (2013). Does corruption undermine trust in health care? Results from public opinion polls in Croatia. Social Science & Medicine, 98, 46-53.

Reinikka, R., & Svensson, J. (2002). Explaining leakage of public funds. Available at SSRN 303984.

Rimmer, D. (2000). Aid and corruption. *African affairs*, *99*(1), 121-128.

Rock, M. T. (2009). Corruption and democracy. *The Journal of Development Studies*, *45*(1), 55-75.

Rose-Ackerman, S. (2011). Anti-Corruption Policy: Can International Actors Play a Constructive Role?. *Yale Law & Economics Research Paper*, (440).

Serikbayeva, B., Abdulla, K., & Oskenbayev, Y. (2021). State capacity in responding to COVID-19. *International Journal of Public Administration*, *44*(11-12), 920-930.

Shpak, S. (2012). *Effectiveness of foreign aid to health: case of developing countries* (Master's thesis). Kyiv School of Economics, Kyiv, Ukraine.

Simplice, A. (2014). Development thresholds of foreign aid effectiveness in Africa. *International Journal of Social Economics*, *41*(11), 1131-1155.

Sung, H. E. (2004). Democracy and political corruption: A cross-national comparison. *Crime, Law and Social Change*, *41*, 179-193.

Svensson, J. (2000). Foreign aid and rent-seeking. *Journal of international economics*, *51*(2), 437-461.

Swedlund, H. J., & Lierl, M. (2020). The rise and fall of budget support: Ownership, bargaining and donor commitment problems in foreign aid. *Development Policy Review*, *38*, O50-O69.

The Global Fund to Fight AIDS, Tuberculosis and Malaria. (2023, November). *Key Performance Indicators (KPIs) Handbook for the 2023-2028 Strategy.* Retrieved from: https://www.theglobalfund.org/media/12681/strategy_globalfund2023-2028-kpi_handbook_en.pdf

Toseef, M. U., Jensen, G. A., & Tarraf, W. (2019). How effective is foreign aid at improving health outcomes in recipient countries?. *Atlantic Economic Journal*, *47*, 429-444.

Uberti, L. J. (2022). Corruption and growth: Historical evidence, 1790–2010. *Journal of Comparative Economics*, *50*(2), 321-349.

Vestergaard, J., & Wade, R. H. (2013). Protecting power: How Western states retain the dominant voice in the World Bank's governance. *World Development*, *46*, 153-164.

Wegenast, T. C., & Basedau, M. (2014). Ethnic fractionalization, natural resources and armed conflict. *Conflict Management and Peace Science*, *31*(4), 432-457.

Winnick, S., Lucas, D. O., Hartman, A. L., & Toll, D. (2005). How do you improve compliance?. Pediatrics, 115(6), 718-724.

Winters, M. S. (2010). Accountability, participation and foreign aid effectiveness. *International Studies Review*, *12*(2), 218-243.

World Bank (1989). 'Sub-Saharan Africa. From Crisis to Sustainable Growth: A Long-Term Perspective Study'. Washington, DC: World Bank.

World Bank. (2015, September). *World Bank Project Performance Ratings – Codebook.* Retrieved from: https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ieg-wb-project-performance-ratings-codebook_092015.pdf

World Bank. (2023a). *GDP per capita.* [Dataset]. Retrieved from https://databank.worldbank.org/source/worldwide-governance-indicators

World Bank. (2023b). *Control of Corruption.* [Dataset]. Retrieved from https://databank.worldbank.org/source/worldwide-governance-indicators

Zhang, D. (2017). Why cooperate with others? Demystifying China's trilateral aid cooperation. *The Pacific Review, 30*(5), 750-768.